Monetary Policy, Capital Controls, and International Portfolios

by Sebastián Fanelli

Discussion by Florencia S. Airaudo (UC3M)

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- The strength of this channel depends on the portfolio composition → **potential role for capital controls**
- This paper: studies optimal monetary policy, portfolio choice, and capital controls (with commitment)
- Setup: SOE model with incomplete markets, nominal rigidities, endogenous portfolio choice

2 periods static model

- Home households maximize

$$\mathbb{E}\, U\left(C_{Ts}, C_{Ns}, L_s\right)$$

Subject to: $$\left(1+\tau_B\right) B + B^* = T_0$$

$$C_{Ts} + E_s^{-1} P_{Ns} C_{Ns} = Y_{Ts} + E_s^{-1} W_s L_s + E_s^{-1} \Pi_{Ns} + R E_s^{-1} B + B^*$$

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- Market clearing conditions: $C_{T_s} = Y_{T_s} + \left(R E_s^{-1} - 1\right) B, \qquad C_{N_s} = Z_s L_s$

Planner's problem

Incomplete markets: choose $\{C_{Ts}\}_s$, $\{E_s\}_s$ and B to solve:

$$\max \ \mathbb{E}V\left(C_{Ts}, E_s; Z_s\right)$$
$$\text{s.t. } C_{T_s} = Y_{T_s} + \left(RE_s^{-1} - 1\right) B$$
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- Nominal rigidities: Demand management
- E_s **linked to the transfer** $\mathcal{T}_s$ **by** $\mathcal{T}_s = \left(RE_s^{-1} - 1\right) B$: Insurance role

Optimal policy

Almost linear-quadratic approximation

$$\max_{\{e_s\}_s, \bar{B}} -\frac{1}{2}\mathbb{E}_0\left[\underbrace{\left(e_s - e_s^{dm}\right)^2}_{\text{demand management}} + \chi\bar{B}^2\underbrace{\left(e_s - e_s^{in}(\bar{B})\right)^2}_{\text{insurance}}\right] + t.i.p. + \mathcal{O}\left(\epsilon^3\right)$$

where $e_s^{dm} = \frac{1}{\alpha}z_s$

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- $\uparrow y_{T_s}$: $\bar{e}_s^{dm}$ since the relative price between T-NT does not change under flexible prices. $\uparrow e_s^{in}$ if $\bar{B} > 0$, $\downarrow e_s^{in}$ if $\bar{B} < 0$

Optimal policy: main results

Optimal monetary policy rule (given $\bar{B}$):

$$e_s^{op}(\bar{B}) = (1 - \omega(\bar{B}))e_s^{dm} + \omega(\bar{B})e_s^{in}(\bar{B}) + \mathcal{O}\left(\epsilon^2\right)$$

where $\omega(\bar{B}) = \frac{\chi\bar{B}^2}{1+\chi\bar{B}^2}$.

Result 1: The optimal exchange rate is a weighted average of the two targets.

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Result 2: Optimal portfolio

- $\mid \bar{B} \mid$ increases with the insurance motive
- $\downarrow \sigma_e^2/\sigma_{e^{dm}}^2$ if the insurance motive is relatively more important

No role for taxes to portfolio composition

Optimality of the portfolio implies:

$$\underbrace{\frac{\partial V}{\partial C_T}(s)}_{\text{social marginal utility}} = \underbrace{\frac{\partial U}{\partial C_T}(s)}_{\text{private marginal utility}} - \underbrace{\alpha^{-1}(1-\alpha)\left(e_s - e_s^{dm}\right)}_{\text{aggregate demand externality}} + \mathcal{O}\left(\epsilon^2\right)$$

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- **Result 3:** As risk vanishes, the private portfolio decision is asymptotically efficient, and the tax τ_B approaches zero.

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Emerging countries: characterized by $\frac{\sigma^c}{\sigma^y} > 1$

Could this be explained by a more important role for insurance? $\rightarrow$ More exposed to external shocks

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- **Financial frictions can affect optimal monetary policy and capital controls**: Mendoza (2006), Mendoza and Bianchi (2010), Bianchi (2011), Jeanne and Korinek (2013), Schmitt-Grohe and Uribe (2016)
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- Could benefit from studying the role of financial frictions:
  - **Reduced-form** financial friction (debt elastic interest rate as in Justiniano and Preston (2010))
  - Endogenous spread as in the literature of **portfolio choice** (market segmentation: Vayanos and Vila (2021), Itskhoki and Mukhin (2021), Gourinchas, Ray Vayanos (2021)) or **borrowing limits** (Bianchi (2011))

Thank you!

- I enjoyed reading the paper very much, and I learned a lot!
- Intuitive results in a very tractable model, also generalized to a broad set of extensions: multiple assets, infinite horizon, dynamic setting
- Great framework to think about optimal monetary policy with a portfolio choice in small open economies
- Could benefit from explaining the contribution to the literature:
  - Optimal capital controls
  - Portfolio choice